

Missouri Department of Natural Resources OPERATOR CERTIFICATION SECTION

Water & Wastewater Digest

Winter 2014

Inside This Issue

A Historical Look Back

Drinking Water Watch - An Excellent Way to Keep Current with Water System Information

Applications and Deadlines for the 2016 State Revolving Fund

EPA New Flood Resilience Guide Available

Accounting for Missouri's Water Needs

Drinking Water Reports Get a New Look!!!

Rainwater Harvesting Saves Drinking Water

Ever Heard of a Capital Improvement Plan or an Asset Management Plan?

Operator Certification and Training

Need Your Password to log in?

Visit us on the Web

Water & Wastewater Digest Subscriptions

A Historical Look Back: Gerald R. Ford's Statement on Signing the Safe Drinking Water Act

December 17, 1974

I am pleased to have signed the Safe Drinking Water Act (S. 433). Much effort has gone into the development of this legislation as much as for any enacted in this session of Congress.

This Administration proposed a Safe Drinking Water Act, and several others were introduced by Members of Congress. All of these bills had the same objectives: to increase protection of the public's health. Many compromises had to be made before this bill reached my desk. Yet it is a strong bill, reflecting the combined efforts of the Congress and the Administration.

This legislation will enhance the safety of public drinking water supplies in this country through the establishment and enforcement of national drinking water standards. The Environmental Protection Agency has the primary responsibility for establishing our national standards. The States have the primary responsibility of enforcing them and for otherwise ensuring the quality of drinking water. In some situations where States fail to enforce the standards, the Federal Government could. I believe this will seldom be necessary. During the extensive consideration of this legislation, spokesmen for the Administration opposed extensive Federal involvement in what has traditionally been State and local regulatory matters and unnecessary costs to the Federal Government. Even with the compromises that were made, I still have reservations about those two aspects of this bill, and I intend that it be administered so as to minimize both Federal involvement and costs.

The bill enhances the ability of the Federal Government to conduct research into the health effects of contaminants in drinking water. Recent news stories have highlighted several potential drinking water problems that can only be resolved through research. I am pleased to say that we are already moving ahead on these problems.

Nothing is more essential to the life of every single American than clean air, pure food, and safe drinking water. There have been strong national programs to improve the quality of our air and the purity of our food. This bill will provide us with the protection we need for drinking water.

Drinking Water Watch - An Excellent Way to Keep Current with Water System Information

Drinking Water Watch is an online web portal provided by the Department of Natural Resources that offers information regarding sampling results, inventory, and enforcement data for Missouri public water systems. Interested parties may obtain information about a water system by visiting the website at dnr.mo.gov/DWW, and conducting a water system search. This information is useful to the water system as well as the customers it serves.



P.O. Box 176
Jefferson City, MO 65102-0176
www.dnr.mo.gov

Water system representatives have the ability to log into Drinking Water Watch with a user ID and password and access data that is more detailed than the information provided to the general public. Expanded system information includes locational data, inspection history and a complete list of contact information. This provides an opportunity for the system to verify the Public Drinking Water Branch has current contact information for the system on file. A system will often discover that its contact information is not current because it does not reflect recent changes such as operator changes, or board elections. When reviewing your system, if you find discrepancies, contact Cathy Stockman with the Public Drinking Water Branch at 573-751-0972, or by email at cathy.stockman@dnr.mo.gov.

If you are interested in obtaining a Drinking Water Watch ID and password for your water system, visit dnr.mo.gov/env/wpp/labs/dww-access.htm and complete the Advanced Drinking Water Watch Access Submittal Form. At this website, you may choose your user ID and password. If you are a representative for more than one water system, we can provide you a single login to access all of your systems rather than one for each water system you represent. If you have questions, contact Thomas Adams with the department's Public Drinking Water Branch at 573-751-8330, or by email at thomas.adams@dnr.mo.gov.

Applications and Deadlines for the 2016 State Revolving Fund

The deadline to apply for funding for the Missouri Department of Natural Resources 2016 Clean Water State Revolving Fund was Nov. 15. The deadline to apply for funding for the 2016 Drinking Water State Revolving Fund is Feb. 15, 2015, however, applications will be accepted and processed any time throughout the year.

Please visit the department's Financial Assistance Center website for applications and instructions at dnr.mo.gov/env/wpp/srf/index.html. Potential applicants are strongly encouraged to contact the department prior to submitting an application at 573-751-1192.

Applicants anticipating the use of other state or federal funds to finance water or wastewater system improvements must complete a Missouri Water and Wastewater Review Committee project proposal. That application and instructions can be found at dnr.mo.gov/env/wpp/srf/additional-resources.htm.

For more information, call the department's Financial Assistance Center at 800-361-4827 or 573-751-1192.

EPA New Flood Resilience Guide Available

With a user-friendly layout, embedded videos, flood maps, and worksheets, the U.S. Environmental Protection Agency's new Flood Resilience: A Basic Guide for Water and Wastewater Utilities provides small and medium-sized drinking water and wastewater utilities with guidelines for understanding their flooding threat and identifying practical mitigation options.

According to the guide, flooding is one of the most common hazards in the United States, causing more damage than any other severe weather-related event. It can occur from tropical storms, hurricanes, swollen rivers, heavy rains, tidal surges, spring snowmelt, levee or dam failure, local drainage issues and water distribution main breaks. EPA developed this guide to help drinking water and wastewater utilities become more resilient to flooding by implementing a four-step assessment process:

- Step 1: Understand the threat
- Step 2: Identify vulnerable assets and determine consequences
- Step 3: Identify and evaluate mitigation measures
- Step 4: Develop a plan to implement mitigation measures

Although this guide focuses on flood resilience, the same approach can be applied to other hazards; earthquakes and tornadoes for example.

The guide is available at EPA's water security website, water.epa.gov/infrastructure/watersecurity/emergplan/upload/epa817b14006.pdf.

Additional training is planned by EPA, including a webinar, to further promote the flood resilience guide.

Accounting for Missouri's Water Needs

Missouri is fortunate to have an abundant supply of water resources such as large rivers, streams, lakes and high-quality aquifers. The quantity of water may not always be adequate to meet demand during times of drought or when conflict arises between competing water uses. Water use reporting provides Missouri with critical data for assessing changes and impacts to water resources statewide.

Individual water users may benefit from water use reporting by identifying unintended water losses or overuse that result in increased energy use, system maintenance or treatment costs. In addition, reporting water use helps to document the water needs of users during times of shortage or dispute or if there comes a time when water use is regulated. Water use data are collected and analyzed by the Missouri Department of Natural Resources Water Resources Center. The Major Water User Law (RSMo 256.400-256.430) requires any entity with the capability to withdraw 70 gallons per minute (100,000 gallons per day) or greater from any water source (surface source or groundwater) to register with the department and report their water use annually.

The department does not regulate the amount of water that can be withdrawn for use, and there is no fee for reporting. Water use registration can be completed online, by email, fax or U.S. mail. An extensive effort has been made to facilitate annual major water use registration by upgrading an online system. Registered major water users now have access to their well or intake data as pre-populated fields through the new online system.

The information collected online provides a precise measurement of water use and is helpful in making a

stronger case for Missouri's water needs during interstate water disputes and discussions. Complete and accurate accounting of water use is a major step toward developing a meaningful assessment of Missouri's current and future water needs.

For more information or to request reporting forms, call the Water Resources Center at 573-368-2175. To report water use or obtain forms online, and to view real-time stream and groundwater conditions, visit the Water Resources Center's website at dnr.mo.gov/env/wrc.

Drinking Water Reports Get a New Look!!!

You may have noticed a new look to the water testing results from the Environmental Services Program (ESP).

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
Environmental Services Program
RESULTS OF SAMPLE ANALYSES FOR PUBLIC WATER SUPPLIES

Order ID 14

PWS County: MO
PWS ID: MO

Report Date: 10/15/2014
Sample Number: AC3
Date Collected: 09/16/2014
Sample Location: Public Works
Comments: DBPDUAL-01

Analysis Performed	Result	Qualifier	MCL	Units
562.2 Bromochloroacetic Acid	<1.3	ND, 27		µg/L
Bromodichloroacetic Acid	<0.6	ND, 27		µg/L
Chlorodibromooacetic Acid	<1.3	ND, 27		µg/L
Dibromooacetic Acid	<1.3	ND, 27		µg/L
Dichloroacetic Acid	<2.3	ND, 27		µg/L
Monobromooacetic Acid	<2.7	ND, 27		µg/L
Monochloroacetic Acid	<4.0	ND, 27		µg/L
Tribromooacetic Acid	<1.9	ND, 27		µg/L
Trichloroacetic Acid	<0.7	ND, 27		µg/L
Total HAA5	Total HAA5	<11.0	ND, 27	60 µg/L

MCL - A Maximum Contaminant Level (MCL) is the legal threshold limit on the amount of a substance that is allowed in drinking water under the Federal Safe Drinking Water Act. MCLs are health based, legally enforceable standards. Drinking water results below the MCLs are considered safe. "" denotes an Action Level.

SS- Secondary Drinking Water Regulations (secondary standards) are non-enforceable guidelines regulating contaminants that may cause aesthetic effects in drinking water, such as taste, color or odor. It is recommended that water systems comply with secondary standards but water systems are not required to comply.

The analysis of this sample was performed in accordance with procedures approved or recognized by the U.S Environmental Protection Agency. If you have any questions, please contact Mr. Eric Medlock at (573)522-5028.

Chris Boldt
Chris Boldt, Laboratory Manager
Environmental Services Program
Division of Environmental Quality

Order ID 14 MO Page 1 of 2

In either case, the water is considered safe for this potential contaminant analyte. The 02 qualifier often accompanies the 27 or 28 qualifiers. EPA requires samples to be received at the lab less than or equal to 6°C. To assist with this requirement, ESP tried many products and found the current method of insulated shipment boxes, improved gel freezer packs and pre-chilling of samples before shipment to be the best way to ensure compliance with the temperature requirement. **That is why it is very important for the gel pack to be frozen overnight and to pre-chill the sample(s) in the refrigerator for a minimum of 4 hours before samples are repacked with the frozen gel packs for return shipment to ESP.** We suggest the system to immediately put the gel packs in the freezer when the sample kit arrives.

When ESP receives a sample over 6°C, they will include the 27 (Sample temperature outside acceptable range) qualifier on the sample results report. This qualifier alone will not require resampling. However, the analytes for Volatile Organic Chemicals (VOC) or Disinfection Byproducts (DBP) samples can "gas off" and cause inaccurate results if air bubbles, also known as headspace, are present in the amber-colored glass sample vials. For this reason, all VOC and/or DBP samples received with excessive headspace will be rejected and a new sample will be required to be taken. Samples that need to be recollected will be identified in the "Comments" section above the "Analysis Performed" section, as shown in the example below.

Comments		Sample rejected due to headspace. Resampled under Order Id		, AC	
Analysis Performed		Result	Qualifier	MCL	Units
Sample Cancelled		Sample Cancelled	N/A		

This article mentions the four most common qualifiers, but additional qualifiers may also be present on the report. Please reference the qualifier descriptions key located near the end of the report to identify other data qualifiers.

Data Qualifiers	
01 Improper collection method	15 No result - failed quality controls requirements
02 Improper preservation	16 Not analyzed - related analyte not detected
03 Exceeded holding time	17 Results in dry weight
04 Analyzed by contract laboratory	18 Sample pH is outside the acceptable range
05 Estimated value, detected below PQL	19 Estimated value
06 Estimated value, QC data outside limits	20 Not analyzed - Instrument failure
07 Estimated value, analyte outside calibration range	21 No result - spectral interference
08 Analyte present in blank at > ½ reported value	22 pH was performed at the laboratory
09 Sample was diluted during analysis	23 Contract lab specific qualifier-see sample comment
10 Laboratory error	24 No result - matrix interference
11 Estimated value, matrix interference	25 No Result: Excessive Chlorination
12 Insufficient quantity	26 No Result: Excessive Dechlorination
13 Estimated value, true result is >= reported value	27 Sample temperature outside acceptable range
14 Estimated value, non-homogeneous sample	28 Headspace (air bubbles) present in sample vial
29 Estimated value, QC data biased low	30 Estimated value, QC data biased high
ND Not detected at reported value	

Recently, the ESP lab added a new column entitled "Qualifier" to the "Results of Sample Analyses for Public Water Supplies" report. The four most common qualifiers a water system will experience are 02 (Improper preservation), 27 (Sample temperature outside acceptable range), 28 (Headspace (air bubbles) present in sample vial) and ND (Not Detected at reported value).

The ND qualifier is the easiest to understand. It simply means the analyte was either not present or was present in a quantity below what the instrument could detect.

The important takeaways are that if sample instructions call for no headspace (VOC & DBP) to make sure the samples are filled completely full before sealing with the cap and to pre-chill the samples and thoroughly freeze the gel packs before shipping.

If you have additional questions, contact Eric Medlock at 573-522-5028 or by email at eric.medlock@dnr.mo.gov.



Rainwater Harvesting Saves Drinking Water

A southwest Missouri company is receiving national attention due to its creative reuse of harvested rainwater. James River Basin Partnership (JRBP) has partnered with Austin's Pumping Service to harvest over 3,700 gallons of rainwater from the roof of its office building. Capturing the rain water will help protect the water quality in local streams and rivers. Once the water is captured it's used to service portable restrooms that are rented out to local venues.

Rainwater can become polluted as it travels over impervious surfaces like streets and parking lots by collecting oil, grease, salt and other chemicals. This water typically travels directly to rivers and streams or is held in a detention basin for a period of time before being released. In a large storm, the water can also cause erosion as it gains momentum traveling over the impervious surfaces. Capturing the water and reusing it to fulfill a need provides an extra advantage of conserving the precious drinking water supply in Springfield.

Trucks used to pull up to the outside spigot and fill their tanks with city water. This clean drinking water would then be used to service the portable restrooms for their clients. These same trucks now pull up to a hose that is connected to a large rainwater harvesting system. As long as there is rain in the tanks, using clean drinking water to service the portable restrooms is a thing of the past. The JRBP project manager Melissa Bettes notes, "Reducing the amount of stormwater leaving the property is necessary to protect our streams. Reusing the water saves money in the long run, as well as providing a valuable ecosystem service - using non-potable water for non-potable needs, protecting water quantity as well as quality."

This project was made possible with funds from JRBP's Show-Me Yards, Neighborhoods, Farms, and Ranches 319 grant awarded through the Department of Natural Resources as well as matching funds from Austin's Pumping Service. For more information about the project contact Melissa Bettes at 417-836-4847.

Ever Heard of a Capital Improvement Plan or an Asset Management Plan?

Every Utility Should Have one - but What are They?

Is your treatment facility collecting enough revenue to sustain the system? Sustainable revenues should cover all operation and maintenance and provide savings for small emergencies and replacement of the entire system when its design life is up. Regulations are subject to change over time. Required upgrades are increasingly common. How much revenue is enough? Municipalities might go over their budget each year, they may even come up with a plan to commit some funds over the next few years, but many municipalities fail to plan for the long term.

Typically a small municipality will include items in their capital budget for the next year or two. The capital budget is the document where the funds for the capital projects are identified and authorized for expenditure by the elected officials. A short term capital improvement plan covers a longer range, perhaps three to five years, and not only commits funds to proposed construction or replacement projects but also evaluates rates and other sources of income to ensure the funds will be there when needed. An asset management plan is a long-term plan that evaluates all assets that may need to be replaced in the foreseeable future as well as long-term budgeting and user rates. It is a tactical plan for managing a utilities infrastructure and other assets to deliver an agreed standard of service.

Planning for the future now will minimize sharp rate increases when requirements or needs change in the future. Does your utility have a capital improvement plan or asset management plan in place to help cover future needs? For additional information on developing an asset management plan, visit the U. S. Environmental Protection Agency Asset Management webpage at water.epa.gov/infrastructure/sustain/asset_management.cfm.



Operator Certification and Training

Exam Date	Location	Filing Deadline
Jan. 6	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	Dec. 7
	Department of Natural Resources 2155 N. Westwood Blvd., Poplar Bluff	
	Department of Natural Resources 2040 W. Woodland, Springfield	
Feb. 3	Department of Natural Resources 500 NE Colbern Road, Lee's Summit	Jan. 4
	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	
	Department of Natural Resources 1709 Prospect Dr., Macon	
Mar. 3	Department of Conservation Powder Valley Nature Center, Kirkwood	Feb. 1
	Lewis & Clark State Office Building 1101 Riverside Dr., Jefferson City	

Need Your Password to log in?

Certified operators are encouraged to access training reports by visiting the department's website at dnr.mo.gov/operator. To login, the password is the last four digits of your social security number.

In addition to checking training hours and renewing certificates online, this site provides a convenient place to view and update important contact information for public drinking water systems including the chief operator, sample collector and administrative contact.

For more information, contact the department's Operator Certification Section at 800-361-4827 or 573-751-1600.

Visit us on the Web

The list of approved training changes frequently as new courses are reviewed and approved by Department staff or trainers adjust schedules. By the time this newsletter reaches you, there may be new courses available in your area.

Visit us at dnr.mo.gov/env/wpp/opcert/oprtrain.htm for an up-to-date list of approved operator certification courses.



← Regular wastewater examinations are scheduled for 9 a.m., and the water supply examinations are scheduled for 1:00 p.m. unless otherwise noted on the admission letter.

Water & Wastewater Digest Subscriptions

- ☐ New subscriber to the Digest? Complete section 2 below.
- ☐ Change of Address: Complete sections 1 and 2 or certified operators can update information online at www.dnr.mo.gov/operator.
- ☐ Cancelling subscription? Complete section 1 below.

Section 1 - Previous Address

Name _____

Operator Certificate # _____

Street _____

City/State/ZIP Code _____

Mail or Fax to:

Missouri Department of Natural Resources
Operator Certification Section
P.O. Box 176, Jefferson City, MO 65102-0176
Fax: 573-751-0678

Section 2 - New Address

Name _____

Operator Certificate _____

Street _____

City/State/ZIP Code _____

Daytime phone with area code _____

Training

The mailed version of this publication included a two page list of approved training courses and exam schedule that was available at the time of printing.

For a current listing of training, please visit:

dnr.mo.gov/env/wpp/opcert/oprtrain.htm